

Recovery Plan Action Status

Plan Name: Masked Bobwhite Recovery Plan, Second Revision

Plan Status: Final Revision 2

Plan Date: 21-Apr-95

Lead Agency: USFWS

Lead Office: Buenos Aires National Wildlife Refuge

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823-4251)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	1.1	Captive Population: Maintain one captive population as a gene pool.	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Sonoran Joint Venture	Management: Captive Standards and Veterinary Care, Management: Disease Control, Management: Propagation, Management: Reintroduction, Research: Genetics, Research: Propagation, Research: Reintroduction	Internal Technical Assistance, Species Expert, Volunteer	The captive population has been raised and housed at BANWR since 1996. A few birds exist at several zoos, and one small population exists at Northern Illinois University. Additional facilities are being pursued.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	1.2	CAPTIVE POPULATION: Maintain one captive population as a release source.	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Sonoran Joint Venture, Africam Safari	Management: Captive Standards and Veterinary Care, Management: Disease Control, Management: Propagation, Management: Reintroduction, Research: Genetics, Research: Propagation, Research: Reintroduction	Contract, Internal Technical Assistance, Species Expert, Volunteer	A population remains onsite at BANWR and a new facility for housing a population to produce release birds for Mexico is nearing completion at Africam Safari's facility in Puebla, MX. Releases were suspended in 2004, but reinitiated on a smaller scale in 2010 when 74 birds were released on BANWR.

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Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	1.3	GENETIC MANAGEMENT: Maintain and enhance gene pool.	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, University	Management: Reintroduction, Research: Demographic Studies, Research: Genetics, Research: Propagation, Research: Reintroduction	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	Pedigree developed for portion of the captive flock through contract with U. of AZ. Searches are underway to look for new populations of birds in Mexico, but after several years of intensive searches involving biologists from two countries, it appears that the bird is nearly extinct in the wild in Mexico.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	1.4	CAPTIVE POPULATION: Construct a new propagation facility.	Complete	FY 1995 - FY 1999	FY 2012	U.S. Fish and Wildlife Service, Africam Safari	Acquisition: General, Management: Propagation	Contract, Internal Technical Assistance, Species Expert	Funding was received and a new propagation facility is nearly complete at Africam Safari, Puebla, MX. This state of the art facility is housed at an AZA approved zoological park staffed adequately and with excellent veterinary care available to the birds. 11/18/2005: Buenos Aires NWrf Facility constructed in 1996; in use since. Maintenance and repairs are annual and ongoing.

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Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.11	REINTRODUCTIO N: Release masked bobwhite chicks	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service	Management: Propagation, Management: Reintroduction, Research: Demographic Studies, Research: Management Techniques, Research: Population Surveys, Research: Predation, Research: Propagation, Research: Reintroduction	Internal Field Assistance, Internal Technical Assistance, Volunteer	Releases have been ongoing since refuge establishment in 1985. Over 21,000 masked bobwhite have been released. Releases were put on hold from 2004-2010 due to the recommendations made by the wildlife and habitat management review team in July 2004. A minor release took place in 2010 and another in 2011. This is a release of older surplus birds (not needed for propagation). 15 radio transmitters were mounted on the birds for tracking purposes. An additional release will take place in late September 2011. This will be of 5 week old parent-reared birds.

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Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.13	MONITOR RELEASE POPULATIONS: Monitor released birds	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service	Management: Reintroduction, Research: Habitat Requirements, Research: Habitat Status, Research: Management Techniques, Research: Other Information, Research: Population Surveys, Research: Predation, Research: Reintroduction	Internal Field Assistance, Volunteer	Monitoring has been ongoing by refuge personnel since the establishment of the refuge in 1985. Before that, experimental releases were monitored. Following a small release in 2010, birds were detected in the vicinity of the release sites, but none were detected on formal call count transects in July 2011. However 1 male and one female were seen in separate sightings. In addition, a pair was seen, possibly the same birds. Currently radio telemetry is being used to track 14 birds from 2011 releases.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.21	POPULATION MGMT: Conduct population viability analysis for BANWR	Complete	FY 1995 - FY 1999	FY 1995 - FY 1999	Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, University	Work type not yet selected	Internal Technical Assistance	PVA was done at the refuge with a team of about 20 experts in 2004

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Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.22	POPULATION MGMT: Determine minimum viable & effective population size	Complete	FY 1995 - FY 1999	FY 1995 - FY 1999	Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, University , Arizona Game and Fish Department	Management: Disease Control, Management: Habitat Maintenance and Manipulation, Management: Planning, Management: Propagation, Management: Reintroduction, Other: Information and Education, Research: Competition, Research: Demographic Studies, Research: Disease, Research: Environmental Contaminants, Research: Genetics, Research: Habitat Requirements, Research: Habitat Status, Research: Management Techniques, Research: Migration, Research: Other Information, Research: Population Surveys, Research: Predation, Research: Propagation, Research: Reintroduction	Internal Field Assistance, Internal Technical Assistance, Species Expert	Result of PVA in 1995.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.31	HABITAT MGMT: Develop habitat plan for BANWR	Complete	FY 2005	FY 2009	U.S. Fish and Wildlife Service	Management: Habitat Maintenance and Manipulation, Management: Land Use, Management: Planning, Research: Habitat Status, Research: Management Techniques	Internal Technical Assistance	HMP process began in Spring 2005. Final version was signed by all pertinent FWS personnel in 2010.

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Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.311	HABITAT MGMT: Discing	Ongoing Current	FY 2005		U.S. Fish and Wildlife Service	Management: Habitat Maintenance and Manipulation, Management: Reintroduction, Research: Management Techniques, Research: Reintroduction	Internal Field Assistance, Internal Technical Assistance, Volunteer	Discing has been experimented with since refuge establishment. In summer 2005, 3 experimental discing plots were established alongside some aerated plots. Since that time aeration, in particular, has become a regular quail management. In 2011 100.1 acres were aerated in Road Camp Unit.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.312	HABITAT MGMT: FoodPlots	Planned	FY 2010		U.S. Fish and Wildlife Service	Management: Habitat Maintenance and Manipulation	Internal Field Assistance	Food plots are being planned for in the HMP, and necessary clearances are being planned prior to implementation.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.313	HABITAT MGMT: Half-cutting	Planned	Prior to FY 1995		U.S. Fish and Wildlife Service	Management: Habitat Maintenance and Manipulation, Management: Reintroduction, Research: Management Techniques	Internal Field Assistance, Volunteer	Half cutting was experimented with from around 1985-1991. There are plans to possibly continue half-cutting in the near future in addition to creation of shrub type habitat through other techniques
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.314	HABITAT MGMT: Chaining	Planned			U.S. Fish and Wildlife Service	Management: Habitat Maintenance and Manipulation, Research: Habitat Requirements, Research: Habitat Status, Research: Management Techniques	Contract, Internal Field Assistance	Chaining has been done on this land prior to refuge establishment. It has also been experimented with in bobwhite habitat in Mexico. The refuge hopes to experiment with more chaining in the near future as part of the HMP in order to create better cover and shrub-like components

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Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.315	HABITAT MGMT: Grazing	Not Started			U.S. Fish and Wildlife Service	Management: Habitat Maintenance and Manipulation, Management: Land Use, Research: Management Techniques	Contract, Internal Field Assistance, Volunteer	Other than unauthorized grazing, this has not been experimented with on the refuge. Grazing is not sanctioned in our CCP, and will likely not be experimented with on refuge lands.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.316	HABITAT MGMT: Fire	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service	Management: Habitat Maintenance and Manipulation, Management: Reintroduction, Research: Management Techniques	Internal Field Assistance, Internal Technical Assistance	11-18-05: Prescribed burning has been the primary management tool for the refuge since its establishment. Prescribed burns were planned for 2011, but due to severity of conditions (extreme drought, heat, and wind) none were done.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.317	HABITAT MGMT: Provide Supplemental Water	Partially Complete	Prior to FY 1995		U.S. Fish and Wildlife Service, Private Industry	Management: Habitat Maintenance and Manipulation, Management: Other	Contract, Internal Field Assistance, Volunteer	8/2010: 11 stockponds, for a total of 44.1 acres were improved for use by masked bobwhite and other animals. Ponds were deepened or repaired using ARRA funding. Six wells were refurbished, which will be used to provide water for bobwhites. In addition an inventory of all water sources on the refuge was done by volunteers which shows locations, names, GPS coordinates, condition and what needs to be done to repair or restore the water source.

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Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.321	HABITAT MGMT: Evaluate habitat management; prioritize on cost benefits basis	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service	Management: Habitat Maintenance and Manipulation, Research: Habitat Requirements, Research: Habitat Status, Research: Management Techniques	Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	Vegetation plots have been done since the establishment of the refuge and are being used to evaluate management practices. New fire effects plots have been established and monitoring is being done on mechanical treatment areas. As part of the HMP, more treatments will be evaluated.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.4	Select management areas. Potential management areas should be identified and selected for treatment. All areas should be evaluated for their management potential and suitability for masked bobwhites.	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service	Management: Depredation Control, Management: Habitat Maintenance and Manipulation, Management: Land Use, Management: Other, Management: Planning, Management: Reintroduction, Research: Demographic Studies, Research: Habitat Requirements, Research: Habitat Status, Research: Management Techniques, Research: Reintroduction	Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	We realize that in bobwhite management we need to begin in smaller, more appropriate areas and expand outward from those. As part of the HMP process, we are identifying areas to do intensive bobwhite management.

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Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.511	HABITAT INVESTIGATION: Home range studies	Discontinued	Prior to FY 1995		U.S. Fish and Wildlife Service, University	Management: Habitat Maintenance and Manipulation, Management: Planning, Management: Reintroduction, Research: Demographic Studies, Research: Habitat Requirements, Research: Management Techniques, Research: Population Surveys, Research: Reintroduction	Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	11-18-05: A home range study was conducted by a graduate student, Karen Simms, in the late 1980's. No other home range work has been since and the refuge does not plan on focusing on this in the near future.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.512	HABITAT INVESTIGATION: Perform habitat suitability analysis	Ongoing Current	FY 2000 - FY 2004		U.S. Fish and Wildlife Service, University	Management: Habitat Maintenance and Manipulation, Research: Demographic Studies, Research: Habitat Requirements, Research: Management Techniques	Internal Field Assistance, Internal Technical Assistance, Species Expert	Determining habitat suitability is an ongoing process and will be more complete once the refuge completes a vegetation mapping process. Habitat suitability is being determined through the HMP planning process.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.513	HABITAT INVESTIGATION: determine seasonal habitat requirements	Not Started			U.S. Fish and Wildlife Service, University	Management: Habitat Maintenance and Manipulation	Graduate Student	By determining what the season habitat requirements are we might better create/improve/rest ore habitat for year-round use.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.514	HABITAT INVESTIGATION: Effect of habitat mgmt on quail habitat preferences	Planned			U.S. Fish and Wildlife Service, University	Management: Habitat Maintenance and Manipulation	Graduate Student	New habitat mananagement strategies are be considered as part of the HMP planning process and once implemented, will be monitored with regard to masked bobwhite response.

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Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.515	HABITAT INVESTIGATION: Native food plant restoration	Ongoing Current	FY 2011		U.S. Fish and Wildlife Service, Private Industry	Management: Habitat Maintenance and Manipulation, Management: Propagation, Research: Management Techniques	Contract, Internal Field Assistance, Volunteer	A 6.7 acre site is being planted with native shrubs and grasses as part of an ARRA project. Project should be completed by September 30, 2011.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.516	HABITAT INVESTIGATION: Potential competition between quail species	Partially Complete	Prior to FY 1995		U.S. Fish and Wildlife Service, University	Research: Competition	Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	11-18-05: Some competition research has been conducted on the refuge comparing, masked bobwhite, Gambels and Scaled. The first was done in the 1970's and then in the early 1990's. There are no current plans to study competition
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.517	HABITAT INVESTIGATION: Habitat model for BANWR	Partially Complete	Prior to FY 1995		U.S. Fish and Wildlife Service, University	Management: Depredation Control, Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control, Research: Habitat Requirements, Research: Habitat Status, Research: Other Information, Research: Predation	Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.521	FOOD HABIT INVESTIGATION: Identify seasonal dietary preferences	Partially Complete	Prior to FY 1995		U.S. Fish and Wildlife Service, University	Research: Habitat Requirements, Research: Other Information	Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	Very little work has been conducted on food preferences of the masked bobwhite. Most of what has been investigated is through incidental opportunities in the field.

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Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.531	POPULATION INVESTIGATION: Estimate minimum viable population size	Partially Complete	FY 1995 - FY 1999		Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, University , Arizona Game and Fish Department	Management: Planning, Management: Reintroduction, Research: Demographic Studies, Research: Genetics, Research: Other Information, Research: Population Surveys, Research: Propagation, Research: Reintroduction	Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	11-18-05: Viability analysis was discussed and reported on in the 1995 PVA.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.532	POPULATION INVESTIGATION: Determine seasonal mortality rates	Not Started			U.S. Fish and Wildlife Service, University	Research: Population Surveys	Graduate Student	Not currently a focus and very difficult to determine
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	3	2.533	POPULATION MGMT: Evaluate various census techniques	Ongoing Current	FY 2006		Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, University	Research: Population Surveys	Internal Field Assistance, Species Expert, Volunteer	Evaluating and modifying techniques is an ongoing, adaptive process.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.541	RELEASE: Evaluate specific release techniques	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service	Management: Reintroduction, Research: Reintroduction	Internal Field Assistance	The refuge is beginning the process of experimentation with a new captive rearing and release method pioneered by Tall Timbers Research Station. Parent-reared birds will be released as juveniles (5-6 weeks old) after spending their entire lives outdoors.

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Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	2.542	Determine genetic diversity and increase heterozygosity in captive populations	Partially Complete	FY 2005		U.S. Fish and Wildlife Service, University , Sonoran Joint Venture	Research: Genetics	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	The refuge completed a project, under cooperative agreements, with the U of AZ and TX A&M Univ to determine the genetic status in the captive population. Also, we are comparing the genetic make-up among the captive birds with the wild and historical specimens. Wild birds were captured and translocated to the Refuge in 1999, but all were release into the wild. The captive population is in great need of new genetic material. New birds need to be captured in the wild to add to the flock. Refuge personnel are searching central Sonora, Mexico, in hopes of finding adequate numbers of birds for infusion of new genetic material into the captive flock.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	3.11	POPULATION INVESTIGATION: Population monitoring in Sonora	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Sonoran Joint Venture	Management: International Cooperation, Management: Population Monitoring, Research: Population Surveys	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	Population monitoring is ongoing in Sonora, MX. Funding has been obtained for intensive population monitoring and area searches using Mexican biologists on the ground and US biologists in the air, who are looking for appropriate habitat. But in 2009, 2010 and 2011(so far) zero birds were located in Sonora.

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Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	3.12	POPULATION MGMT: Survey potential habitats for new pops. in Sonora	Ongoing Current	FY 2006		U.S. Fish and Wildlife Service, Sonoran Joint Venture	Management: Reintroduction, Research: Demographic Studies, Research: Habitat Status, Research: Population Surveys	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	Surveys of private ranches is ongoing in Mexico. New ranches are being surveyed by foot and car, ranchers are being contacted regarding the presence of bobwhites on their ranches, and aerial surveys are on-going searching for potential habitat.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	2	3.13	REINTRO: Select introduction sites in Sonora	Ongoing Current	FY 2006		Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, Private Ranchers, Sonoran Joint Venture	Management: Reintroduction	Contract, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	A Mexican biologist and BANWR staff have identified some sites in Sonora which could be used for reintroduction of masked bobwhite and are still searching for other appropriate sites and willing landowners. Permitting is in progress.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	3.2	HABITAT PROTECTION IN SONORA	Ongoing Current	FY 2008	FY 2010	U.S. Fish and Wildlife Service, Private Ranchers, Sonoran Joint Venture	Acquisition: General	Contract, Internal Administrative, Internal Technical Assistance, Species Expert	Conservation agreements with 2 private landowners ended on May 31, 2011. Under this agreement 4,508 acres were protected and improved. This agreement removed cattle from the lands and provided monetary incentive to landowners to do habitat improvements. These included spraying of buffelgrass, planting of native plants, disking and aerating.

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Masked bobwhite (quail) (<i>Colinus virginianus ridgwayi</i>)	1	3.21	MONITOR HABITAT IN MEXICO	Ongoing Current	FY 1995 - FY 1999		Centro Ecologico de Sonora, U.S. Fish and Wildlife Service	Management: Habitat Maintenance and Manipulation	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	Population and habitat monitoring is ongoing in Sonora, MX, but has been limited due to lack of funds and assistance. A Mexican biologist monitors changes to known habitat on a qualitative basis as he surveys for masked bobwhites and habitat.
Masked bobwhite (quail) (<i>Colinus virginianus ridgwayi</i>)	1	3.221	NEW RELEASE SITES: Contact landowners in Sonora	Ongoing Current	FY 2006		U.S. Fish and Wildlife Service, Sonoran Joint Venture	Management: Reintroduction, Other: Information and Education, Research: Reintroduction	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert	A Mexican biologist was hired from 2006-2011 to make landowner contacts and determine suitability of habitat. If suitable habitat is located in Mexico, we would consider releasing captive-reared birds or translocating wild birds to the site.
Masked bobwhite (quail) (<i>Colinus virginianus ridgwayi</i>)	1	3.222	NEW RELEASE SITES: Conduct habitat suitability analysis	Ongoing Current	FY 2005		U.S. Fish and Wildlife Service, Sonoran Joint Venture	Management: Habitat Maintenance and Manipulation, Management: Planning, Management: Reintroduction, Research: Habitat Requirements, Research: Reintroduction	Contract, Graduate Student, Internal Field Assistance, Species Expert	Determining habitat suitability is an ongoing process. Habitat suitability on BANWRs is being determined through the HMP planning process. In Mexico, a crew of Mexican biologists was hired 2006-11 to assist in suitability determinations.
Masked bobwhite (quail) (<i>Colinus virginianus ridgwayi</i>)	1	3.23	HABITAT PROTECTION: Establish permanent masked bobwhite refuge	Not Started			Centro Ecologico de Sonora, U.S. Fish and Wildlife Service	Acquisition, Acquisition: Management Agreement, Management: Habitat Maintenance and Manipulation, Management: Planning, Other: Information and Education	Contract, Internal Administrative, Species Expert	Currently, there is not an opportunity to establish a permanent "refuge" in MX for the masked bobwhite due to lack of funding, though they may be landowners willing to sell. We will continue to pursue opportunities and will continue to work with landowners to aid bobwhite recovery efforts.

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Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	3.31	COOPERATIVE MGMT PLANS: Cooperative habitat mgmt plans with landowners in Sonora	Ongoing Current	FY 2007		U.S. Fish and Wildlife Service, Private Ranchers, Sonoran Joint Venture	Acquisition: Easement, Acquisition: Lease, Acquisition: Management Agreement, Management: Habitat Maintenance and Manipulation, Management: Land Use, Management: Planning	Contract, Internal Administrative, Internal Field Assistance, Species Expert	Conservation easements recently expired with 2 landowners in for over 4000 acres in Mexico. Under such agreements, habitat management plans for the area were jointly agreed upon by FWS and the rancher involved.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	3.41	MAINTAIN & IMPROVE HABITAT IN MEXICO	Ongoing Current	FY 1995 - FY 1999		Private Ranchers	Acquisition: Easement, Acquisition: Management Agreement, Management: Habitat Maintenance and Manipulation, Management: Planning, Research: Habitat Requirements, Research: Management Techniques	Contract, Internal Administrative, Internal Technical Assistance, Species Expert	USFWS and Sonoran Joint Venture are working with private ranchers in Sonora, Mexico, to develop strategies for improving habitat for masked bobwhites. A conservation agreement was in place until May 31, 2011 which deferred grazing and promoted habitat improvements on lands owned by 2 ranchers.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	2	3.511	REINTRO: Evaluate potential release sites in Sonora	Ongoing Current	FY 2006		Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, Private Ranchers, Sonoran Joint Venture	Management: Reintroduction, Research: Population Surveys, Research: Reintroduction	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	Mexican properties are being evaluated for possible release sites. Landowner contacts are being made to determine willingness of owner. Habitat quality is being assessed.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	2	3.52	REINTRO: Develop a release plan for Sonoran habitats	Not Started			Centro Ecologico de Sonora, U.S. Fish and Wildlife Service	Management: Planning, Management: Reintroduction, Research: Reintroduction	Internal Administrative, Internal Technical Assistance, Species Expert	At the current time, releases are being considered for Mexico. However, there are many concerns of disease transfer and unknown genetic status.

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Masked bobwhite (quail) (Colinus virginianus ridgwayi)	2	3.53	REINTRO: Release birds in Sonora	Not Started			Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, Private Ranchers	Management: Planning, Management: Reintroduction, Other: Information and Education, Research: Reintroduction	Contract, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	Releases of masked bobwhites in Sonora are being considered at the present time.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	2	3.54	REINTRO: Monitor survival of release in Sonora	Not Started			Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, University, Private Ranchers, Sonoran Joint Venture	Management: Planning, Management: Reintroduction, Other: Information and Education, Research: Demographic Studies, Research: Population Surveys, Research: Reintroduction	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	No releases have taken place in recent decades.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	3.61	HABITAT INVESTIGATION: Identify seasonal habitat requirements in Mexico	Partially Complete	FY 1995 - FY 1999		Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, University	Management: Habitat Maintenance and Manipulation, Research: Demographic Studies, Research: Habitat Requirements, Research: Habitat Status, Research: Management Techniques, Research: Population Surveys	Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	Some habitat research has been done in MX in the mid-90's. No current plans to do more on seasonal requirements
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	3.611	HABITAT INVESTIGATION: Habitat model for Mexico	Partially Complete	FY 1995 - FY 1999		Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, University	Management: Habitat Maintenance and Manipulation, Research: Habitat Requirements, Research: Habitat Status, Research: Management Techniques	Contract, Graduate Student, Internal Field Assistance, Species Expert	A graduate student collected habitat data in MX in the mid-90's as part of a habitat model development by Fred Guthrey. No current work is being done to develop a model.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	3.612	HABITAT INVESTIGATION: Conduct home range studies in Mexico	Not Started			Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, University	Research: Habitat Requirements, Research: Habitat Status, Research: Other Information, Research: Population Surveys	Contract, Graduate Student, Internal Field Assistance, Species Expert	No plans for this in the near future

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Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	3.613	HABITAT INVESTIGATION: Measure effects of habitat mgmt on quail in Mexico	Not Started			Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, University	Management: Habitat Maintenance and Manipulation, Research: Demographic Studies, Research: Habitat Requirements, Research: Habitat Status, Research: Management Techniques, Research: Population Surveys	Graduate Student, Internal Field Assistance, Species Expert	No plans to conduct this research in the near future
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	3.614	HABITAT INVESTIGATION: Compare Sonora & Arizona habitats	Partially Complete	Prior to FY 1995		Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, University	Management: Habitat Maintenance and Manipulation, Research: Habitat Requirements, Research: Habitat Status	Graduate Student, Internal Field Assistance, Species Expert	Research done in the mid 90's was conducted in AZ and MX to compare habitat differences
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	3.62	FOOD HABITS: Conduct food habit studies in Mexico	Not Started			Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, University	Research: Habitat Requirements, Research: Other Information	Graduate Student, Internal Field Assistance, Species Expert	Nothing planned for the upcoming year.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	4.1	PUBLIC RELATIONS: Conduct education program in Sonora	Ongoing Current	Prior to FY 1995		Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, Sonoran Joint Venture	Other: Information and Education	Graduate Student, Internal Field Assistance, Internal Technical Assistance, Species Expert	There was a workshop in MX in the early 90's involving mexican ranchers and wildlife management. More education and attention is needed in Sonora.
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	5.1	PROVIDE TECHNICAL ASSISTANCE IN MEXICO	Ongoing Current	Prior to FY 1995		Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, University , Sonoran Joint Venture	Management: Depredation Control, Management: Habitat Maintenance and Manipulation, Management: Land Use, Other: Information and Education, Research: Demographic Studies, Research: Habitat Requirements, Research: Habitat Status, Research: Population Surveys	Internal Field Assistance, Species Expert, Volunteer	Refuge staff visit MX annually to conduct surveys for population estimation. We have met with Mexican biologists in MX and AZ to train them on survey techniques. More needs to take place.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	1	5.2	SUPPORT RESEARCH IN MEXICO	Ongoing Current	Prior to FY 1995		Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, University	Research: Competition, Research: Demographic Studies, Research: Disease, Research: Environmental Contaminants, Research: Genetics, Research: Habitat Requirements, Research: Habitat Status, Research: Management Techniques, Research: Migration, Research: Other Information, Research: Population Surveys, Research: Predation, Research: Propagation, Research: Reintroduction, Research: Taxonomic Studies	Graduate Student, Internal Field Assistance, Species Expert, Volunteer	Some research has taken place in MX over the last 30 years. There is continual support to conduct research in MX but funds are limiting
Masked bobwhite (quail) (Colinus virginianus ridgwayi)	3	6	PUBLICATION COSTS	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Public Affairs Office , Phoenix Zoo, Sonoran Joint Venture	Management: General, Other: Information and Education	Internal Administrative	The refuge continues to update refuge brochures and fact sheets to include current masked bobwhite information. More publicity needs to take place by the State and other partners such as the Phoenix Zoo and Sonoran Joint Venture.

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Masked bobwhite (quail) (Colinus virginianus ridgwayi)	3	7	ESTABLISH AND MAINTAIN MEDIA RELATIONSHIPS	Ongoing Current	Prior to FY 1995		Centro Ecologico de Sonora, U.S. Fish and Wildlife Service, Public Affairs Office , Sonoran Joint Venture	Management: General, Other: Information and Education	Internal Administrative, Species Expert	The refuge has developed media relations over many years and articles have been published in many newspapers and magazines. There has been much interest in the the masked bobwhite, but not consistent enough. There needs to be a stronger relationship with the media and the bobwhite program. Relationships with Mexican media need to be developed, as well in order to garner support for the species in Mexico.